

ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

ORIGINAL
FILE

In the Matter of

Redevelopment of Spectrum to
Encourage Innovation in the
Use of New Telecommunications
Technologies

)
)
)
)
)
)

ET Dkt. No. 92-9

RECEIVED

JUN - 8 1992

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

COMMENTS OF COX ENTERPRISES, INC.

Cox Enterprises, Inc. ("Cox"), by its attorneys, hereby submits its comments on the Commission's Notice of Proposed Rulemaking ("Notice") to establish new frequency bands to be used to deploy new telecommunications technologies.^{1/} As a prospective provider of Personal Communications Services ("PCS"), Cox supports the Commission's proposal because it is an essential step towards the realization of important new services that will greatly benefit consumers.

I. INTRODUCTION

During the last two years Cox has been engaged in PCS experimentation, utilizing both fiber optic and coaxial cable TV plant to assure the widespread, reliable and cost effective delivery of PCS.^{2/} Cox was the first company with cable TV interests authorized by the Commission to propose and demonstrate PCS delivery using cable as the backbone for the network. Cox's experiments continue to demonstrate strong synergies between PCS and broadband cable.

1/ New Telecommunications Technologies, 7 FCC Rcd 1542 (1992).

2/ Cox holds experimental licenses to test PCS in San Diego (KF2XFR) and New York (KF2XFR). While the Notice states that some portion of the 220 MHz earmarked for emerging technologies will be reallocated for services other than PCS, Cox's comments are confined to the impact of the Commission's proposals on the development of PCS.

0 + 5
No. 6-1000-1000
USE CODE

Based upon its research and industry participation, Cox believes that PCS holds the promise of revolutionizing the way people communicate. Mobility of communications unquestionably has become a highly desirable, if not yet an essential, means of communication. The current price of cellular service, however, prevents cellular from addressing the mass consumer market demand for mobility at a predictable, economical price.

In addition to offering affordable mobility, the development of PCS in the United States provides the Commission with an historic opportunity to introduce meaningful competition in switched local exchange services, further enhancing the Commission's policy goals. This "hidden harvest" is a sufficient reason in its own right to support the Commission as it makes the tough policy choices necessary to develop a service requiring redirection of scarce spectrum from one group of users to another.^{3/}

It is critical that PCS operators in a particular market have clear frequencies within a common frequency band to assure that the service meets consumer expectations of low cost, efficient, quality communications. While this goal may not be immediately realizable in all or even most markets, it is the key to long term success and growth of PCS.

II. COX SUPPORTS THE SELECTION OF 2 GHZ FREQUENCIES

A. A 2 GHz Allocation Is Suitable for PCS

Cox's experiments have tested equipment and propagation characteristics for PCS in several frequency bands. Its tests conducted in the 1850 to 1990 MHz bands

^{3/} See Statement of Dr. Russell W. Neumann, Massachusetts Institute of Technology, December 5, 1991 En Banc testimony; Supplemental Comments filed January 15, 1992.

demonstrate that the frequency band is suitable for PCS. Propagation tests at these frequencies yield microcell sizes of approximately one tenth to one quarter of a mile, depending on terrain.^{4/} This relatively small microcell coverage area reinforces the need to integrate PCS microcells and cable plant.

Cox's PCS experiments also demonstrate that while 2 GHz frequencies should penetrate buildings, the attenuation is sufficiently great that PCS operation at higher frequencies may prove unacceptable. Either cell sizes would have to decrease substantially, necessarily increasing the cost to consumers, or a lower grade of service would be provided. Cox believes that a full featured PCS system could not be delivered in bands above 2 GHz with currently envisioned technology. However, microwave operations can be accommodated in higher bands.

Cox agrees with the conclusions of the Notice that frequencies above 3 GHz are not useful for the provision of new mobile services, at least in the near term. Similarly, frequencies below 1 GHz do not present significant opportunities for large scale reallocation of existing users. These considerations make it plain that the 2 GHz band is the only logical candidate for locating PCS, particularly since most current 2 GHz band users can be accommodated in higher frequency bands without adverse impact on their operations. Cox also agrees with the Commission's assessment that certain non-fixed or broadcast users currently assigned spectrum in the 2 GHz band (1.99-2.11 broadcast electronic news gathering, and 2.15-2.16 GHz MDS) should not be considered as candidates for relocation. Finally, Cox believes PCS should be placed in

^{4/} This microcell size is estimated for a PCS portable handset operating at 100mW.

the 1850-1990 MHz band, leaving the noncontiguous portions of 2 GHz available for other emerging technologies.

B. Phased Release of 2 GHz Spectrum

The Notice suggests that the entire 220 MHz bandwidth identified for use by new technologies may not be made available at once, but rather in phases, commencing this year. A phased approach has merit, particularly if the release of spectrum properly takes into account the actual utilization of frequencies within particular markets. For example, in San Diego, there are nineteen Operational Fixed Microwave paths licensed at 1965 MHz. None are licensed at 1880 MHz. Service to the public will be expedited and initial allocation of least used spectrum facilitated if potential PCS providers assist the Commission by identifying the least congested bands in particular markets.^{5/}

Following a phased approach makes sense from the perspective of all interested parties. By identifying and assigning previously unassigned spectrum existing users will be permitted uninterrupted access to frequencies for their operations, yet it permits new services, like PCS, to begin service in many areas with no impact on microwave licensees. As a result, in many markets there may be little or no immediate need to relocate existing users until PCS spectrum utilization grows in response to consumer demand. In those markets where some relocation will be required from the outset, targeted, phased release of spectrum will allow new services operators to minimize the impact of their services on existing users.

^{5/} Since the Commission will likely settle upon a common band for each new service to be licensed within the spectrum reserve, technical standards could address important issues like intersystem roaming and compatibility to assure that, even in the initial phase, important service features necessary to consumer acceptance of the service are available.

III. TERMS AND CONDITIONS FOR REALLOCATION

A. Existing Users Must Be Relocated

During the course of its PCS experiments in San Diego, Cox has performed a preliminary analysis of the current San Diego operating environment using the 1850-1990 MHz bands as a starting point for probable service deployment. Cox's analysis shows a significant number of Operational Fixed Service microwave ("OFS") licensees within 35 miles of the Cox cable headend in Chula Vista, California. Cox has concluded that there are few completely unassigned frequencies available today for assignment to PCS in metropolitan San Diego.

Applying these results more broadly, spectrum sharing may provide a very short window prior to the need for relocation of OFS operations, particularly in the early stages of PCS development. Ultimately, however, relocation of OFS licensees will be necessary in order to fully develop PCS. In San Diego, for example, the 2 GHz microwave environment is relatively crowded. Depending upon the channel bandwidth of the technology selected and the technical ability and economic impact of proposed avoidance systems, Cox may not even be able to commence limited service without relocating several microwave paths. Thus, the terms and conditions for relocation of existing users becomes a critical issue for PCS service development.

Existing microwave operators have a need for consistent, predictable and reliable communications. Cox recognizes that relocating existing users to higher frequencies or alternative media poses a challenge for both the Commission and new services proponents. In striking a balance between the spectrum needs of existing users and the development of new services, the Commission must be sensitive to both, but

ultimately must determine the best and highest use of its spectrum resources and implement appropriate transition rules that advance the Commission's determinations.

B. Suitable Frequencies Are Available for Microwave Use

The Commission's Office of Engineering and Technology (OET) Study discussed in the Notice identifies alternative frequency bands at 4 GHz, 6 GHz and 11 GHz that can be made available for relocation of existing microwave operations. Additionally, since the release of the Notice, the Commission and NTIA have initiated investigation of the possibility of sharing the government spectrum adjacent to the 1850-1990 MHz band with non-government microwave operations.

Cox supports the Commission's efforts to identify alternative spectrum for fixed microwave use and expansion, including consideration and prompt action on the petition for rulemaking filed by the Utilities Telecommunications Council ("UTC") requesting technical rule changes to accommodate the specialized channelization needs of private microwave operations. Cox also supports the goals of the recently filed Alcatel Network Systems Petition for Rulemaking proposing specific technical changes to accommodate fixed microwave operations in these higher frequency bands. Cox agrees with NTIA that these technical rule change initiatives should proceed while the Commission continues to formulate transition rules in this proceeding.^{6/}

C. Cox Supports a Flexible Transition Plan

Reallocation is never entirely satisfactory from the perspective of all affected parties. Unless users perceive some technical, economic or efficiency benefit to relocation, they are unlikely to spend the time, effort and capital required to modify

^{6/} See Letter of Thomas J. Sugrue, Acting Assistant Secretary, NTIA to Chairman Alfred C. Sikes, ET Dkt. No. 92-9, May 4, 1992.

their operations. In past reallocations, safeguards generally were adopted to ensure that incumbent users had alternative spectrum or media that could accommodate their communications needs and that users would not be deprived prematurely or without notice of their investment in equipment. Standards were adopted so that the rights and obligations of incumbents were spelled out. Similar safeguards and standards are appropriate here.

The Commission is to be commended for the sensitivity it has demonstrated to the concerns of incumbent microwave users. The Commission has had repeated meetings with and briefings by microwave users to identify ways to assure that relocation will not result in degradation of their existing operational capabilities. The Notice proposes a ten or fifteen year period during which microwave users will retain primary status with new services. The Notice further proposes grandfathering all state and local government operations indefinitely. Finally, the Notice proposes "market-based" negotiations that would allow incumbent microwave users to negotiate compensation in excess of costs in exchange for an agreement with a new services operator to relocate to alternative frequencies or media.

Cox is concerned that these proposals may be unnecessarily rigid in some respects and too permissive in others. For example, the proposal to provide a ten or fifteen year period of co-primary status to some or all incumbents will provide no incentive to the incumbent to move since there is no prospect of imminent change to justify the effort of moving. A ten or fifteen year period is essentially an arbitrary choice that assumes all incumbent microwave users currently utilizing 2 GHz frequencies have new, completely undepreciated equipment.

A prolonged period of co-primary sharing could choke the development of PCS, particularly when it is coupled with spectrum buy-out provisions utilizing market based pricing.

Cox fears a situation where it is effectively blocked from developing PCS in major areas of a licensed market because it cannot accede to the demands of a microwave incumbent for compensation that may be grossly in excess of its costs for relocation. The proposal to allow "market" based payments for relocation at some negotiated rate simply invites abuse. It also has serious implications for the costs consumers will be asked to pay for new services like PCS.

As an alternative, the Commission should permit PCS licensees to identify and approach incumbent microwave users, including state and local government operators, with proposals to relocate their operations. These plans would include a proposal for compensation that reflects the actual costs of relocation. The technical portion of a relocation proposal would demonstrate the comparability of all critical system parameters so that the incumbent would not face degraded service at the new frequency. Existing users and PCS providers would be free to agree to reaccommodation at any time following the Commission's grant of a license to the PCS operator. With this scheme in place the actual period of co-primary status should assume less importance. Cox does believe, however, that co-primary status for microwave users should sunset no more than seven years after the Commission adopts final rules in this proceeding.^{7/}

^{7/} In the extreme case where relocation to higher or adjacent frequencies simply is not technically feasible, Cox believes that the operator should be accorded co-primary status indefinitely.

Cox's proposal provides flexibility for both microwave users and new services providers. In those markets where microwave operations must be relocated in order to introduce new services, the affected parties may negotiate relocation plans without unnecessary delay. Further, since the microwave operator will be compensated for its costs and guaranteed equivalent service performance, the effort to relocate will be rewarded by new, more efficient digital equipment provided at no cost to the licensee.

D. Commission's Role in Reaccommodation

Cox believes that the market based needs of developing services should drive the pace of relocation. It is important, however, that the Commission adopt rules and standards to govern those few instances where relocation negotiations become gridlocked. It is imperative that once PCS is established and demand is demonstrated, microwave users must not be given absolute veto power over the service's development.

One way to assure that PCS is not arbitrarily blocked by incumbents is for the Commission to make itself available to mediate in those instances where an incumbent refuses to negotiate relocation after reviewing a firm relocation proposal. Cox suggests that the Commission use the MMDS relocation procedures as a model to govern relocation negotiations.^{8/}

IV. CONCLUSION

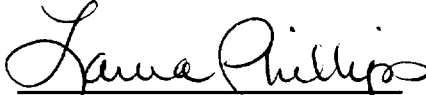
Based on its tests, Cox believes the 2 Ghz band is best suited for PCS development. The Commission should expeditiously adopt procedures governing the relocation of existing microwave users to alternative frequencies identified in the Notice.

^{8/} In its Second Report and Order in Docket 90-54, the Commission outlined a comprehensive program of involuntary relocation in situations where voluntary agreements fail to materialize. 6 FCC Rcd 6792 (1991).

Cox supports a flexible relocation plan. However, incumbents should not be permitted to block the development of new services by requiring super-compensatory rates in return for relocation to other frequencies. Such a rule would result in significantly higher rates for PCS and an unjustified windfall to incumbent microwave users. The Commission must be available to mediate in those few instances where relocation negotiations between incumbents and PCS providers are gridlocked. It is only by adopting reasonable and consistent rules for relocation that the Commission can achieve its objective to free spectrum for new telecommunications services.

Respectfully submitted,

COX ENTERPRISES, INC.


Werner K. Hartenberger
Laura H. Phillips

Its Attorneys

Dow, Lohnes & Albertson
1255 23rd Street, Suite 500
Washington, D.C. 20037
(202) 857-2500

June 8, 1992